

# Space Data Corporation

## Air-To-Ground Proceeding WT Docket No. 03-103

Gerald Knoblach  
Chairman and CEO

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# ATG Licensing Proposals

- Two exclusive MHz licenses produce best competitive results.
  - 2.5-3.0 MHz license can support CDMA technology.
  - 1.0 MHz license can provide voice and SMS service that is competitive with larger ATG licensee.
  - 1.4-1.5 MHz license can support technologies such as iDEN and GSM to provide a variety of services, including voice, Internet access, and SMS to ATG customers.
    - At least 1.4 MHz is needed to support data to users (WiDEN (80 Kbps) requires four 25 kHz paired channels with a reuse of 7).
    - Licenses smaller than 1.4 MHz support voice/low speed data.
  - Stratospheric platforms are ideally suited for providing ATG services.
    - Adaptable to market demand – total coverage from fewer sites scaling to many sites as market grows.
    - No near-far interference eliminates need for guard bands.
  - Incumbent's operations can be protected during the transition to the new licensing scheme.

# ATG Licensing Proposals (Cont.)

- Exclusive 4 MHz license
  - Retains non-competitive ATG market.
  - Promotes inefficient use of scarce ATG spectrum because 3 MHz of spectrum at most is needed to provide wideband ATG services.
  - Even if the service rules allow the exclusive licensee to partition, disaggregate, or lease 1 MHz of its 4 MHz allocation, it is unlikely to do so because it has no incentive to provide a competitor with access to the ATG market.

# ATG Licensing Proposals (Cont.)

- AirCell's and Boeing's proposal to assign two overlapping 3 MHz licenses by adding 125 kHz guard band does nothing to solve technical and regulatory obstacles associated with overlapping licenses.
  - Significant technical risk
  - Inflexible design
    - Rigid fixed site locations
    - Significant, ongoing technical coordination between licensees will make it difficult for licensees to react to changes in market demands and technologies
  - Requires the FCC to promulgate detailed base station location, sharing, and interference requirements
    - Requirements become even more complicated to craft if each licensee uses different technologies / protocols.

# Detailed Analysis Needed For Guard Band Allocation

- Commenters advocate an additional 125 kHz guard band for each ATG band segment.
- Existing cellular channelization plan suggests that narrower guard bands are adequate.
  - Near-far interference more constrained for ATG than cellular.
  - Guard band use in adjacent bands should be analyzed.
- CDMA ATG network can operate adjacent to Cellular B Block, much of which is CDMA technology, without interference (within cellular band, carriers stack CDMA channels next to each other with no guard band).

# ATG Channels

